



## **AAR-100**

### **Human Factors Newsletter # 01-12**

**(June 9, 2001 – June 22, 2001)**

**ICAO Briefing:** On June 8, 2000, Dr. Kim Cardosi (Volpe Center), in support of AAR-100, participated in a panel briefing to the International Civil Aviation Organization (ICAO) Air Navigation Commission in Montreal Canada. Acting as an advisor to the US Member, David Cherry, Dr. Cardosi discussed the human factors issues associated with Required Communication Performance (RCP). Included in the discussion was the importance of the design of the human-machine interface in the effectiveness of the communication system. Also on the panel were: Tom Kraft, the FAA Chief Scientific and Technical Advisor for Aeronautical Communications; Roy Oishi, the working group rapporteur; and Chris Dalton, secretary of the Operational Data Link (OPLINK) panel. As an historical note, Dr. Cardosi was informed that she was the first woman to brief the Commission. (K. Cardosi, Volpe NTSC)

**Flight Information Services:** Dr. Kevin Williams (CAMI) attended a meeting of the RTCA Special Committee 195, Minimum Aviation System Performance Standards (MASPS) for Flight Information Services - Broadcast (FIS-B), at the RTCA headquarters in Washington, DC. The committee is continuing work on change 1 of the MASPS FIS-B document. Discussion focused on rules regarding the addition of FIS-B products to the product registry for inclusion in the document, a review of the Electronic Flight Bag work being performed by the FAA, the use of coded vs. translated textual weather information, and the definition of pilot/ATC weather severity descriptions. (K. Williams, CAMI)

### **Electronic Flight Bag (EFB):**

- A researcher from Volpe Center gave a talk titled "An Introduction to Electronic Flight Bags" to the RTCA Special Committee-195 on Flight Information Services (Chaired by Steve Henely of Rockwell Collins) on May 31, 2000 in Washington, D.C. The talk covered the EFB concept and current implementations, demonstrations and evaluations, and information about the FAA's approach to evaluating and approving EFBs. Included was a description of the Volpe work on human factors considerations for the design and evaluation of EFBs. The committee is interested in how human factors issues related to the display of weather and other related flight information (e.g., notices to airman) would be addressed for the EFB. (D. Chandra, Volpe NTSC)

- On June 12, 2000, a researcher from Volpe Center presented an update on the EFB human factors document to a meeting of the Air Transport Association Digital Data Working Group in Denver. Version 1 of the document was released in September 2000. Since then, several comments from industry and the FAA were received and incorporated. The group was sent an updated document as of June 4, 2000 for discussion. The presentation focused on the types of changes in the updated document. In general, the updated document is more detailed, and advises more caution in a number of areas. The revisions will be discussed in more detail in a follow-up teleconference on June 28, 2000, a date that allows more time for individuals to review the updates. (D. Chandra, VNTSC)

**Flight Symbolology and Electronic Flight Bags (EFB):** On May 8-9, 2000, a researcher from the Volpe Center hosted a meeting of the Society of Automotive Engineers (SAE) G-10 Subcommittee on Electronic Charts (Chairman Pedro Rivas of the Airline Pilots Association). Topics of discussion included a review of the EFB human factors document (and in particular, a new chapter on Electronic Charts that is being written for that document), as well as the flight symbolology research planned at the Volpe Center. The group is interested in coordinating the Volpe flight symbolology research with their plans to begin work on updating the Aerospace Recommended Practices (ARP) document on symbolology for electronic aeronautical charts. The group also discussed what research would be necessary to validate the ARP document they are currently writing on data-base driven electronic charts. In brief, data-base driven electronic charts are electronic aeronautical charts that will be created automatically in real-time during a flight. The information displayed on the charts would be selected based on a design matrix of information elements and their relative priorities during each segment of an approach. The group also received a tour of the Volpe simulation facilities and briefings from other Volpe human factors researchers. (D. Chandra, VNTSC)

**Navigation Displays:** Members of the AGATE Flight Systems Technical Council, Navigation Systems subcommittee visited CAMI on June 21-22. This group included John Laurin and Rick Ellerbrock from Jeppesen and Rich Jenkins from Rockwell-Collins. The group finalized plans for usability testing of Jeppesen's new navigation display product in the CAMI AGARS, to be concluded in time for preliminary reporting at the final AGATE meeting in Oshkosh. Software was loaded onto the navigation display computer on the AGARS and preliminary debugging was conducted. Preliminary designs were developed for the usability testing procedures, and both the software modifications and test plans were expected to be completed within 10 days of the CAMI meeting, allowing data collection to begin the first week of July (D. Beringer – CAMI).

**Intermodal Safety:** As part of the intermodal Safety Data Action Plan, the Bureau of Transportation Statistics established three working groups to develop implementation plans associated with nine research projects. FAA/CAMI personnel are represented on each of the working groups. A June 18, 2001 meeting for one of the working groups in Baltimore was focused on the taxonomies used to define data collected in existing modal databases and the establishment of common criteria for defining accidents, incidents, injuries, and deaths. Aviation databases appear to be more extensive than those available for most other modes of transportation. Efforts are ongoing to define improved methods for data collection and to identify field tests to assess promising methodologies (D. Schroeder, CAMI; R. Balderston, ASY-300; and B. Poole, AAI-200).

**Shiftwork and Fatigue:** A CAMI researcher attended a meeting at NASA Ames with the Article 55 Human Factors Workgroup to discuss the final version of the Shiftwork and Fatigue Survey results pamphlet and the Shiftwork Coping Strategies CD ROM tutorial. The workgroup has agreed to review and provide suggestions for revising the CD for distribution to controllers as part of the educational recommendation from the survey results briefed to AAT-1 and NATCA-1 at the end of May 2001. (T. Nesthus, CAMI)

#### **Aviation Security Human Factors:**

- **InVision Technologies CTX 5500 Operator Performance Report:** On May 22, 2001 Veridian Engineering delivered to the Aviation Security Human Factors Program (AAR-510) the final report regarding operator performance on the InVision Technologies CTX 5500. The goals of this effort were three-fold: (1) the first phase involved data analyses of operator detection of improvised Explosive Devices (IEDs) in FAA field agent tests; (2) the second phase involved an evaluation of the revised training program for CTX 5500; (3) the third phase consisted of a field evaluation of IED detection performance for operators trained with the original and the revised training programs. This report is currently under review and will be sent to the Office of Civil Aviation Security Policy and Planning (ACP-400) by August 1, 2000, in support of the Developmental Implementation Plan. (C. George, AAR-1)
- **Kick-off Meeting for ARGUS Program Human Factors Support:** On June 14, 2001 the Aviation Security Human Factors Program (AAR-510) held a kick-off meeting with Federal Data Corporation/Logicon for the award of a delivery order to provide engineering support services for ARGUS Program human factors support. FDC/Logicon will provide support to the ARGUS Program Human Factors Lead for the development of test plans and requirements rating criteria, as well as the conduct of a dry run of the human factors test procedures for the ARGUS Program systems qualification testing. (C. George, AAR-1)

*More information on human factors research can be found at the FAA Human Factors (AAR-100) web site: <http://www.hf.faa.gov>*

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**June 17-24, 2001** – Paris Air Show, Le Bourget, France <http://www.promosalons.com/>

**June 21-22, 2001** – Volpe National Transportation Systems Center National Symposia on Transportation: Education and Workforce, US DOT Volpe Center, Cambridge, MA  
<mailto:brewerl@volpe.dot.gov>

**July 8-11, 2001** – ATCA 12<sup>th</sup> Annual International Technical Conference & Exhibition, Conrad International Hotel, Dublin, Ireland <http://www.atca.org/>

**August 5-10, 2001** – 9<sup>th</sup> International Conference on Human-Computer Interaction, New Orleans, LA <http://hcii2001.engr.wisc.edu/>

**August 7-8, 2001** – Volpe National Transportation Systems Center National Symposia on Transportation: Enabling Technologies, US DOT Volpe Center, Cambridge, MA  
<mailto:brewerl@volpe.dot.gov>

**August 16-19** – Taipei Aerospace Technology Exhibition, Taipei World Trade Centre, Taipei, Singapore <http://www.taipeitradeshows.com.tw/etate>

**September 4-6, 2001** – MRO Europe 2001, Scottish Exhibition & Conference Centre, Glasgow, Scotland <http://www.aviationnow.com/conferences>

**September 10-14, 2001** – Aerospace Congress & Exhibition By Aerospace North America and SAE, Washington State Convention and Trade Center, Seattle, WA [mail to:kthomson@sae.org](mailto:kthomson@sae.org)

**September 18-20, 2001** – NBAA Annual Meeting and Convention, New Orleans, LA  
<http://www.nbaa.org/>

*September 26-28, 2001 – Human Issues in Aviation Systems Symposium, Toulouse, France*  
<mailto:wise@db.erau.edu>

**October 8-12, 2001** – Human Factors and Ergonomics Society 45<sup>th</sup> Annual Meeting, Human Factors/Ergonomics: It Works, Minneapolis, MN <http://www.hfes.org/>

**October 14-18, 2001** – Aerospace Expo 2001, Los Angeles Convention Center, Los Angeles, CA <http://www.aviationnow.com/conferences>

**October 22-25, 2001** – Annual Cabin Safety Research Technical Group Meeting, Taj Mahal Hotel and Casino, Atlantic City, NJ

**November, 2001** – DOD Technical Advisory Group Meeting, San Diego, CA  
<http://dticam.dtic.mil/hftag/>

**November 4-8, 2001** – ATCA 46<sup>th</sup> Annual International Program & Exhibits, Washington Convention Center, Wash, D.C. <http://atca.org/>

**November 27-30, 2001** - The Third International Aviation Security Technology Symposium, Tropicana Resort & Casino, Atlantic City, NJ, sponsored by the FAA Aviation Security R&D Division and National Safe Skies Alliance. Symposium topics include: Trace Detection, Bulk Detection, Human Factors, Technical Integration, Operational Testing and Evaluation, Deployment, Aircraft Hardening, Emerging Technologies, and other related topics.  
[http://www.safeskiesinternational.org/symposium\\_2001.htm](http://www.safeskiesinternational.org/symposium_2001.htm)

**December 3-5, 2001** – MRO Asia 2001, Regal Hotel, Hong Kong  
<http://www.aviationnow.com/conferences>

**December, 2001** – EUROCONTROL Air Traffic Management R&D Seminar, Santa Fe, New Mexico  
<http://eurocontrol.fr/>

**September 23-27, 2002** – Human Factors and Ergonomics Society 46<sup>th</sup> Annual Meeting, Pittsburgh, PA  
<http://www.hfes.org/>

April 7-27, 2003 – Aviation World's Fair, Newport News/Williamsburg, VA  
<http://www.worlds-fair.com/>

*Note: Calendar events in Italics are new since the last Newsletter*



Comments or questions regarding this newsletter?  
Please contact Bill Berger at (202) 267-8532  
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